UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/807,465	03/24/2004	Guenther H. Ruhe	473-1us	2920

20212 7590 10/15/2007

Lambert Intellectual Property Law
Suite 200, 10328 - 81 Avenue
Edmonton, AB T6E 1X2
CANADA

EXAMINER	
WANG, BEN C	
ART UNIT	PAPER NUMBER
2192	

MAIL DATE	DELIVERY MODE
10/15/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/807,465	RUHE, GUENTHER H.	
	Examiner	Art Unit	
	Ben C. Wang	2192	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on 8-7-2007.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-22 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-22 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on 07 August 2007 is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. Applicant's amendment dated August 7, 2007, responding to the Office action mailed May 8, 2007 provided in the rejection of claims 1-22, wherein claims 19-20 are amended.

Claims 1-22 remain pending in the application and which have been fully considered by the examiner.

Applicant's arguments with respect to claims rejection have been fully considered but are moot in view of the new grounds of rejection – see Carlshamre *et al.,* Antoniol *et al.*, and David A. Penny - arts made of record, as applied hereto.

Claim Rejections – 35 USC § 102(b)

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102(b) that form the basis for the rejections under this section made in this office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-3, 8-17, and 19-22 are rejected under 35 U.S.C. 102(b) as being anticipated by Carlshamre et al., (*An Industrial Survey of Requirements Interdependencies in Software Product Release Planning, 2001, IEEE*) (hereinafter 'Carlshamre' - art made of record)

3. **As to claim 1** (Original), Carlshamre discloses a method of release planning, the method comprising the steps of:

- assigning stakeholder priorities to a set of requirements, where the priorities are assigned by plural stakeholders (e.g., Sec. 1 – Introduction, 1st Par., Lines 6-12 – for increment planning at Ericsson® Radio Systems revealed six different planning parameters that has to be considered and satisfied: available resources, delivery time, requirements interdependencies, requirements priority, system architecture, and dependencies to the code base; 2nd Par., Lines 1-4 – Priority of requirements is a major determinant in increment planning ..; Table 2 – Preliminary set of interdependencies, 1st Col. – Priority; Sec. 2.1 – Types of interdependencies, 2nd Par. – In some cases, more than one relationship could be identified between two particular requirements. To solve this, the interdependencies were given a priority, according to Table 1, and only the interdependency with the highest priority was recorded);
- explicitly defining a set of constraints on the requirements (e.g., Sec. 1 – Introduction, 1st Par., Lines 6-12 – for increment planning at Ericsson® Radio Systems revealed six different planning parameters that has to be considered and satisfied: available resources, delivery time, requirements interdependencies, requirements priority, system architecture, and dependencies to the code base; Table 2 – Preliminary set of interdependencies – Col. 'Type' and Col. 'Meaning'; Sec. 2.1 – Types of interdependencies, 2nd Par. through 3rd Par.);
- using algorithms carried out by a computer, exploring release plan solutions that satisfy the constraints and balance between stakeholder

priorities of different stakeholders to generate a set of candidate release plan solutions that have a positive impact on at least one of project time, overall cost and quality (e.g., Sec. 1 – Introduction, 1st Par., Lines 6-12 – for increment planning at Ericsson® Radio Systems revealed six different planning parameters that has to be considered and satisfied: available resources, delivery time, requirements interdependencies, requirements priority, system architecture, and dependencies to the code base; Sec. 3.4 – Supporting identification of interdependencies, sub-sec of 'Identifying singular requirements', sub-sec of 'Scanning for similarity', and sub-sec of 'Identifying highly dependent requirements; Sec. 3.5 – An interdependency measure); and

- selecting at least one release plan solution from the set of candidate release plan solutions (e.g., Sec. 1 - Introduction, Lines 1-4 – As incremental systems development strategies become commonplace in industry, increment planning (or release planning, the words are used interchangeably herein) gains both importance and interest; The task of scheduling an optimal selection of requirements for a particular increment is as complex as it is important).

4. **As to claim 2** (incorporating the rejection in claim 1) (Original), Carlshamre discloses the method in which operating on the stakeholder priorities with algorithms using a computer is carried out repeatedly after changing one or more of the constraints, requirements or stakeholder priorities (e.g., Sec. 1 –

Introduction, 1st Par., Lines 6-12 – for increment planning at csson® Radio Systems revealed six different planning parameters that has to be considered and satisfied: available resources, delivery time, requirements interdependencies, requirements priority, system architecture, and dependencies to the code base; Sec. 3.4 – Supporting identification of interdependencies, sub-sec of 'Identifying singular requirements', sub-sec of 'Scanning for similarity', and sub-sec of 'Identifying highly dependent requirements; Sec. 3.5 – An interdependency measure).

5. **As to claim 3** (incorporating the rejection in claim 1) (Original), Carlshamre discloses the method in which a set of release plan solutions is generated (e.g., Sec. 1 - Introduction, Lines 1-4 – As incremental systems development strategies become commonplace in industry, increment planning (or release planning, the words are used interchangeably herein) gains both importance and interest; The task of scheduling an optimal selection of requirements for a particular increment is as complex as it is important) and the solution set is further qualified by applying a concordance/non-discordance principle (e.g., Sec. 1 – Introduction, 1st Par., Lines 6-12 – for increment planning at Ericsson® Radio Systems revealed six different planning parameters that has to be considered and satisfied: available resources, delivery time, requirements interdependencies, requirements priority, system architecture, and dependencies to the code base; Table 2 – Preliminary set of interdependencies – Col. 'Type'

and Col. 'Meaning'; Sec. 2.1 – Types of interdependencies, 2nd Par. through 3rd Par.).

6. **As to claim 8** (incorporating the rejection in claim 2) (Original), Carlshamre discloses the method in which changing the requirements comprises actions chosen from a group consisting of:

- adding additional requirements;
- removing existing requirements (e.g., P. 87, 3rd Par., Lines 5-8 – If, for example, Add object really needs to be implemented before Delete object, it is evident that Delete object REQUIRES Add object);
- modifying existing requirements; and
- adjusting stakeholder priorities (e.g., Sec. 1 – Introduction, 1st Par., Lines 6-12 – for increment planning at Ericsson® Radio Systems revealed six different planning parameters that has to be considered and satisfied: available resources, delivery time, requirements interdependencies, requirements priority, system architecture, and dependencies to the code base; 2nd Par., Lines 1-4 – Priority of requirements is a major determinant in increment planning ..; Table 2 – Preliminary set of interdependencies, 1st Col. – Priority; Sec. 2.1 – Types of interdependencies, 2nd Par. – In some cases, more than one relationship could be identified between two particular requirements. To solve this, the interdependencies were given a priority, according to Table 1, and only the interdependency with the highest priority was recorded).

7. **As to claim 9** (incorporating the rejection in claim 2) (Original), Carlshamre discloses the method further comprising the step of assigning the requirements to one of the next release, the next but one release, or unassigned (e.g., Sec. 1 – Introduction, 1st Par., Lines 6-12 – for increment planning at Ericsson® Radio Systems revealed six different planning parameters that has to be considered and satisfied: available resources, delivery time, requirements interdependencies, requirements priority, system architecture, and dependencies to the code base; Table 2 – Preliminary set of interdependencies – Col. 'Type' and Col. 'Meaning'; Sec. 2.1 – Types of interdependencies, 2nd Par. through 3rd Par.).

8. **As to claim 10** (incorporating the rejection in claim 9) (Original), Carlshamre discloses the method in which repeating the step of operating on the stakeholder priorities or value estimates with the algorithms comprises using the unassigned requirements as the requirements in the repeated step (e.g., Sec. 1 – Introduction, 1st Par., Lines 6-12 – for increment planning at Ericsson® Radio Systems revealed six different planning parameters that has to be considered and satisfied: available resources, delivery time, requirements interdependencies, requirements priority, system architecture, and dependencies to the code base; Table 2 – Preliminary set of interdependencies – Col. 'Type' and Col. 'Meaning'; Sec. 2.1 – Types of interdependencies, 2nd Par. through 3rd Par.; Sec. 3.4 – Supporting identification of interdependencies, sub-sec of

'Identifying singular requirements', sub-sec of 'Scanning for similarity', and sub-sec of 'Identifying highly dependent requirements; Sec. 3.5 – An interdependency measure).

9. **As to claim 11** (incorporating the rejection in claim 1) (Original), Carlshamre discloses the method in which selecting a release plan solution from the set of candidate release plan solutions is carried out by a problem solver (e.g., Sec. 1 – Introduction, 1st Par., Lines 6-12 – for increment planning at Ericsson® Radio Systems revealed six different planning parameters that has to be considered and satisfied: available resources, delivery time, requirements interdependencies, requirements priority, system architecture, and dependencies to the code base; Sec. 3.4 – Supporting identification of interdependencies, sub-sec of 'Identifying singular requirements', sub-sec of 'Scanning for similarity', and sub-sec of 'Identifying highly dependent requirements; Sec. 3.5 – An interdependency measure)

10. **As to claim 12** (incorporating the rejection in claim 1) (Original), Carlshamre does not disclose the method in which the method is carried out through a hybrid approach integrating computational intelligence and human intelligence.

However, it is well known in the art of project management to carry out the method through a hybrid approach integrating computational intelligence and human intelligence in order to obtain the benefits know in the art.

11. **As to claim 13** (incorporating the rejection in claim 1) (Original), Carlshamre discloses the method in which the set of constraints is chosen from a group consisting of precedence relationships between requirements, coupling relationships between requirements, effort, resource, budget, risk, and time (e.g., Sec. 1 – Introduction, 1st Par., Lines 6-12 – for increment planning at Ericsson® Radio Systems revealed six different planning parameters that has to be considered and satisfied: available resources, delivery time, requirements interdependencies, requirements priority, system architecture, and dependencies to the code base; Table 2 – Preliminary set of interdependencies – Col. 'Type' and Col. 'Meaning'; Sec. 2.1 – Types of interdependencies, 2nd Par. through 3rd Par.).

12. **As to claim 14** (incorporating the rejection in claim 1) (Original), Carlshamre discloses the method in which stakeholder priorities are represented by a numerical value representing stakeholder satisfaction (e.g., Sec. 2.1 – Types of interdependencies, 2nd Par. – In some cases, more than one relationship could be identified between two particular requirements; For instance, it is intuitive that if a requirement R_1 requires another, R_2, to function, R_2 will also increase the value of R_1 (from zero); P. 88, 1st Par., Lines 1-2 – Case 1, 2 and 3, the most common type of interdependency was value-related, i.e., either ICOST or CVALUE) that a requirement be assigned to one of three categories, the categories consisting of the next release, the next but one

release, and postponed (e.g., Sec. 1 – Introduction – As incremental systems development strategies become commonplace in industry, increment planning (or release planning, the words are used interchangeably herein) gains both importance and interest).

13. **As to claim 15** (incorporating the rejection in claim 1) (Original), Carlshamre discloses the method in which the requirements are grouped into groups of requirements (e.g., P. 90, 2nd Par. (sub-sec of 'Identifying highly dependent requirements) – most of the highly dependent requirements in our survey fall in one of the following categories: Migration to a new platform or OS; Changes to core functionality; Changes to core data structures; Major changes to user interface) and the algorithms balance between stakeholder priorities assigned to the groups of requirements (e.g., Sec. 1 – Introduction, 1st Par., Lines 6-12 – for increment planning at Ericsson® Radio Systems revealed six different planning parameters that has to be considered and satisfied: available resources, delivery time, requirements interdependencies, requirements priority, system architecture, and dependencies to the code base; Sec. 3.4 – Supporting identification of interdependencies, sub-sec of 'Identifying singular requirements', sub-sec of 'Scanning for similarity', and sub-sec of 'Identifying highly dependent requirements; Sec. 3.5 – An interdependency measure).

14. **As to claim 16** (incorporating the rejection in claim 1) (Original), Carlshamre discloses the method in which stakeholders prioritize subsets of the

complete set of requirements (e.g., Sec. 1 – Introduction, 1st Par., Lines 6-12 – for increment planning at Ericsson® Radio Systems revealed six different planning parameters that has to be considered and satisfied: available resources, delivery time, requirements interdependencies, requirements priority, system architecture, and dependencies to the code base; 2nd Par., Lines 1-4 – Priority of requirements is a major determinant in increment planning ..; Table 2 – Preliminary set of interdependencies, 1st Col. – Priority; Sec. 2.1 – Types of interdependencies, 2nd Par. – In some cases, more than one relationship could be identified between two particular requirements. To solve this, the interdependencies were given a priority, according to Table 1, and only the interdependency with the highest priority was recorded).

15. **As to claim 17** (incorporating the rejection in claim 1) (Original), Carlshamre discloses the method further comprising providing on demand an answer to questions chosen from a group of questions consisting of:

- why requirements are assigned to a certain release;
- why requirements are not assigned to a certain release;
- which are commonalities in the proposed solutions; and
- which are differences in the proposed solutions (e.g., Abstract, item (3) – customer-specific bespoke development tend to include more functionality-related dependencies whereas market-driven product development have an emphasis on value-related dependencies; References – [3] – A Comparison Study in Software Requirements

Negotiation; [5] – Evaluating Automated Support for Requirements Similarity Analysis in Market-Driven Development; [6] – Improved Practical Support for Large-scale Requirements Prioritizing; [9] – Requirements Interaction Management; [10] - Surfacing Root Requirements from Inquiry Cycle Requirements).

16. **As to claim 19** (incorporating the rejection in claim 1) (Currently amended), Carlshamre discloses the method where different use cases are predefined (e.g., Sec. 1 – Introduction, 4th Par. – To the same end, a technique for simple visualization of the requirements interdependencies was then applied to each of the five cases; Sec. 2 – Survey planning and operation, sub-sec 'The five cases').

17. **As to claim 20** (incorporating the rejection in claim 1) (Currently amended), Carlshamre discloses the method where process guidance is provided to perform the scenario use cases (e.g., Sec. 1 – Introduction, 4th Par. – To the same end, a technique for simple visualization of the requirements interdependencies was then applied to each of the five cases; Sec. 2 – Survey planning and operation, sub-sec. 'The five cases').

18. **As to claim 21** (incorporating the rejection in claim 1) (Original), please refer to claim **1** as set forth above accordingly.

19. **As to claim 22** (incorporating the rejection in claim 1) (Original), please refer to claim **1** as set forth above accordingly.

Claim Rejections – 35 USC § 103(a)

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

20. Claims 4-6, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Carlshamre in view of Antoniol et al., (*Search-based techniques for optimizing software project resource allocation, January 19, 2004, GECCO*) (hereinafter 'Antoniol' - art made of record)

21. **As to claim 4** (incorporating the rejection in claim 3) (Original), Carlshamre does not explicitly disclose the method in which the algorithms comprise one or more of genetic algorithms, heuristic algorithms and integer programming algorithms.

However, in an analogous art of *Search-based techniques for optimizing software project resource allocation*, Antoniol discloses the method in which the algorithms comprise one or more of genetic algorithms (e.g., P. 2, 4th Par., 2nd bullet – The paper presents results from an empirical study which compares two different encoding strategies. For each strategy, results are reported for

implementations of four algorithms: genetic algorithms, simulated annealing, hill climbing and random search; Sec. 3.1 – The encodings used – The search approaches applied in this paper where implemented for two different schemas of genome encoding and fitness function: the pigeon hole genome and the ordering genome; Sec. 3.1.1 – The pigeon hole genome; Sec. 3.1.2 – The ordering genome), heuristic algorithms (e.g., P.2, 5th Par. – After a brief overview of existing scheduling approaches and application of heuristic approaches to software project management ...) and integer programming algorithms (e.g., Sec. 3.1.1 – The pigeon hole genome, 1st Par. – The pigeon hole genome describes the genome as an array of N integers, where N is the number of WPs (Work Packages). Each value of the array indicates the team the WP is assigned to).

Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made to combine the teachings of Antoniol into the Carlshamre's system to further provide the method in which the algorithms comprise one or more of genetic algorithms, heuristic algorithms and integer programming algorithms in Carlshamre system.

The motivation is that it would further enhance the Carlshamre's system by taking, advancing and/or incorporating Antoniol's system which offers significant advantages that results show that a genome encoding the work package ordering, and a fitness function obtained by queuing simulation constitute the best choice, both in terms of quality of results and number of fitness evaluations required to achieve them as once suggested by Antoniol (e.g., Abstract, 3rd Par.).

22. **As to claim 5** (incorporating the rejection in claim 4) (Original), Antoniol discloses the method in which the algorithms use at least one objective function to evaluate release plan solutions (e.g., Abstract, 1st Par. – We present a search-based approach for planning resource allocation in large software projects, which aims to find an optimal or near optimal order in which to allocate work packages to programming teams, in order to minimize the project duration; Sec. 2 – Related Work, 1st Par. – One of the first examples of search-based scheduling was due to Davis; A survey of the application of genetic algorithms to solve scheduling problems has been presented by Husbands).

23. **As to claim 6** (incorporating the rejection in claim 5) (Original), Carlshamre discloses the method in which the objective function comprises an aggregation of stakeholder priorities or value estimates (e.g., Sec. 5.2 – Case study results, 2nd Par., Lines 6-8 – A queuing simulator allows modeling multi-stage maintenance processes, even accounting for rework or abandonment after a given phase, as well as for priority queues and for dependencies between WPs).

24. **As to claim 18** (incorporating the rejection in claim 1) (Original), Carlshamre does not explicitly disclose the method where a set of near optimal and maximally distinct alternative release plan solutions is generated.

However, in an analogous art of *Search-based techniques for optimizing software project resource allocation*, Antoniol discloses the method where a set of near optimal and maximally distinct alternative release plan solutions is generated (e.g., Abstract, 1st Par. – We present a search-based approach for planning resource allocation in large software projects, which aims to find an optimal or near optimal order in which to allocate work packages to programming teams, in order to minimize the project duration).

Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made to combine the teachings of Antoniol into the Carlshamre's system to further provide the method where a set of near optimal and maximally distinct alternative release plan solutions is generated in Carlshamre system.

The motivation is that it would further enhance the Carlshamre's system by taking, advancing and/or incorporating Antoniol's system which offers significant advantages that results show that a genome encoding the work package ordering, and a fitness function obtained by queuing simulation constitute the best choice, both in terms of quality of results and number of fitness evaluations required to achieve them as once suggested by Antoniol (e.g., Abstract, 3rd Par.).

25. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Carlshamre in view of Antoniol and further in view of David A. Penny (*An Estimation-Based Management Framework for Enhancive Maintenance in*

Commercial Software Products, 2002, IEEE) (hereinafter 'Penny' - art made of record)

26. **As to claim 7** (incorporating the rejection in claim 6) (Original), Carlshamre and Antoniol do not explicitly disclose the method in which computation of the algorithms is carried out externally from an application service provider, and stakeholder priorities are input to the computer from remote locations.

However, in an analogous art of *An Estimation-Based Management Framework for Enhancive Maintenance in Commercial Software Products*, Penny discloses the method in which computation of the algorithms is carried out (e.g., Abstract, Lines 7-10 – The framework is founded upon a mathematically-stated, metrics-based model of the release cycle tuned to the software vendor environment) externally from an application service provider (e.g., Sec. 1 – Introduction, 4th Par. – It is centered around a set of continuously updated release plan documents typically deployed as Web pages on a company's intranet), and stakeholder priorities (e.g., Sec. 6 – The Release Plan Document, sub-sec. – Requirements Section, 3rd Par. – In practice, the requirements section would have more detail, such as pre-requisite relationships, priority information, any customers to whom the feature was promised, initial effort estimate, umber of days to-date spent on the feature, and hyper-linked quality assurance information) are input to the computer from remote locations.

Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made to combine the teachings of Penny into the Carlshamre-Antoniol's system to further provide the method in which computation of the algorithms is carried out externally from an application service provider, and stakeholder priorities are input to the computer from remote locations in Carlshamre-Antoniol system.

The motivation is that it would further enhance the Carlshamre-Antoniol's system by taking, advancing and/or incorporating Penny's system which offers significant advantages for periodically capturing updated estimation data and using it as a basis for initial planning and subsequent re-planning of releases; the framework is founded upon a mathematically-stated, metrics-based model of the release cycle tuned to the software vendor environment as once suggested by Penny (e.g., Abstract).

Conclusion

27. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ben C. Wang whose telephone number is 571-270-1240. The examiner can normally be reached on Monday - Friday, 8:00 a.m. - 5:00 p.m., EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tuan Q. Dam can be reached on 571-272-3695. The fax

phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

TUAN DAM
SUPERVISORY PATENT EXAMINER

BCW

October 10, 2007